Appendix H

NHDES 401 Water Quality Certification Application, June 29, 2015

■

Merrimack Valley Reliability Project

Pelham, Windham, Hudson & Londonderry, New Hampshire

PREPARED FOR

New England Power Company d/b/a National Grid
40 Sylvan Road
Waltham, Massachusetts, 02451
781.907.3648

&

Public Service Company of New Hampshire d/b/a Eversource Energy
13 Legends Drive
Hooksett, New Hampshire 03106
603.634.2906

PREPARED BY

2 Bedford Farms Drive Suite 200
Bedford, NH 03110
603.391.3900

June 29, 2015

www.vhb.com

June 29, 2015

Ref: 12650.00

401 Water Quality Certification Program
NHDES Water Division
29 Hazen Drive, PO Box 95
Concord, NH 03302-0095

Re: 401 Water Quality Certification for the Merrimack Valley Reliability Project
Pelham, Windham, Hudson, & Londonderry, New Hampshire

To Whom It May Concern:

The Merrimack Valley Reliability Project (MVRP) is being proposed by New England Power Company d/b/a National Grid (NEP) and Public Service Company of New Hampshire d/b/a Eversource (PSNH). MVRP proposes a new 345 kV transmission line (known as the "3124 Line") within existing rights-of-way (ROW) from the NEP-owned Tewksbury 22A Substation in Tewskbury, Massachusetts to the PSNH-owned Scobie Pond 345 kV Substation in Londonderry, New Hampshire. The New Hampshire portion of MVRP, referred to herein as the "Project", involves the installation of approximately 17.9 miles of a new 345-kV transmission line from the Massachusetts border through the towns of Pelham, Windham, Hudson, and Londonderry. The MVRP also includes the relocation of an existing overhead 115-kV transmission line (known as the "Y-151 line") in Pelham, Windham, and Hudson. The Project is being permitted through the New Hampshire Site Evaluation Committee process in accordance with RSA 162-H.

The New Hampshire portion of the Project ROW crosses 181 wetlands, 13 perennial streams and 20 intermittent streams. Of the identified streams, Golden Brook (NHRIV700061204-04), Lower Beaver Brook (NHRIV700061203-21), Chase Brook (NHRIV700061002-07), Nesenkeag Brook (NHRIV700061002-04), and Beaver Brook (NHRIV700061203-11) have Assessment Unit ID's. Only Lower Beaver Brook, Nesenkeag Brook, and Beaver Brook are on the State's 303(d) list of impaired waters.

The Project's engineers designed the Project to avoid impacts to jurisdictional areas to the greatest extent feasible and still meet applicable design standards. The preliminary design of the Project avoided jurisdictional areas based on available natural resource information obtained from previous work and available public information. The Project was subsequently revised following the collection of site-specific environmental data and review to avoid direct impacts to wetlands and surface waters wherever feasible. Laydown areas were sited in uplands and previously disturbed areas.

Project impacts to jurisdictional areas were assessed using ESRI ArcGIS© desktop software. Permanent wetland impacts are required to install structures in wetlands and permanently upgrade four wetland crossings. Temporary wetland and stream impacts are required to access proposed and existing structure locations. Temporary and permanent stream impacts are also required to re-align and re-establish an intermittent stream that will be impacted by a structure installation and temporary pull pad site.

Engineers | Scientists | Planners | Designers

2 Bedford Farms Drive
Suite 200
Bedford, New Hampshire 03110
P 603.391.3900
F 603.518.7495

The majority of the Project impacts are temporary and will not alter the hydrology of wetlands (i.e., no inflow/outflow restrictions) along the Project ROW. Stone fords will be installed at permanent wetland crossing locations to maintain hydrology and allow for access during seasonally high flows. Therefore, the Project will not significantly impact hydrologic functions of wetlands (groundwater recharge/discharge, and floodflow alteration) within the existing ROW.

The principal water quality concern associated with the Project work relates to the potential for increased sediment erosion and movement during the construction period. The Project does not involve any water withdrawals or process water discharge that could impact water quality, nor will the Project significantly increase impervious surfaces within the Project area. Temporary sediment and erosion controls will be installed to prevent impacts to water quality resulting from land disturbance, and temporary and permanent stabilization will occur in accordance with Project plans. In addition, a Construction Access Plan has been developed that contains additional guidance regarding Best Management Practices (BMPs) for accessways on steep slopes adjacent to water resources. Therefore, the Project will not significantly impact water quality of wetlands and surface waters within the ROW.

A 401 Water Quality Certification is required because the Project will have temporary and permanent wetland and stream impacts that will require authorization from the US Army Corps of Engineers under Section 404 of the Clean Water Act. The Project qualifies for a NH Programmatic General Permit (PGP), and it is assumed that the Project will be authorized by NHDES under the general 401 Water Quality Certificate #2012-404P-002 for PGP activities.

Please do not hesitate to contact me if you have questions at (603) 391-3900 or strefry@vhb.com.

Sincerely,

Sherrie Trefry

Sherrie Trefry
Director of Energy Services

cc: Joshua Holden, NEP
Laura Games, Eversource

State of New Hampshire
DEPARTMENT OF ENVIRONMENTAL SERVICES
Water Division
29 Hazen Drive, PO Box 95,
Concord, New Hampshire 03302-0095
Attn: 401 Water Quality Certification Program
Phone (603) 271-2457 Fax (603) 271-7894

APPLICATION FOR 401 WATER QUALITY CERTIFICATION

Date of Request June 29, 2015

Date Request Received by DES _____

I. Applicant Information

Principal Place of Business of the Applicant **New England Power Company d/b/a National Grid (NEP)**
Mailing Address [Street, PO Box, RR, etc.] **40 Sylvan Road**
City/Town and Zip Code **Waltham, Massachusetts 02451**

Telephone No.	Email Address
781-907-3648	**joshua.holden@nationalgrid.com**

Name and Title of Signatory Official Responsible for the Activity for which Certification is Sought (e.g., President, Administrator) **Joshua B. Holden, Lead Environmental Scientist, Environmental Permitting–New England**

Principal Place of Business of the Applicant **Public Service Company of New Hampshire d/b/a Eversource Energy (PSNH)**
Mailing Address [Street, PO Box, RR, etc.] **13 Legends Drive**
City/Town and Zip Code **Hooksett, NH 03106**

Telephone No.	Email Address
603-634-2906	**laura.games@eversource.com**

Name and Title of Signatory Official Responsible for the Activity for which Certification is Sought (e.g., President, Administrator) **Laura Games, Senior Licensing & Permitting Specialist**

II. Project Information

Name of Project **Merrimack Valley Reliability Project (MVRP)**

Name of Town and County that contains the Project

Pelham & Hudson, Hillsborough County and Windham & Londonderry, Rockingham County

Name of Receiving Waterbody and Drainage Basin

Golden Brook – Island Pond Brook (NHRIV700061204-04), Merrimack River
Lower Beaver Brook (NHRIV700061203-21), Merrimack River
Chase Brook (NHRIV700061002-07), Merrimack River
Nesenkeag Brook (NHRIV700061002-04), Merrimack River
Beaver Brook (NHRIV700061203-11), Merrimack River

Summary of Activity (e.g., construction, operation, or other practice or action

The Merrimack Valley Reliability Project (MVRP) is being proposed by New England Power Company d/b/a National Grid (NEP) and Public Service Company of New Hampshire d/b/a Eversource (PSNH). The MVRP involves the installation of approximately 17.9 miles of a new 345-kV transmission line (known as the "3124 Line") within the Towns of Pelham, Windham, Hudson, and Londonderry. The proposed 3124 Line will follow existing transmission line rights-of-way (ROW) from the NEP-owned Tewksbury 22A Substation in Tewskbury, Massachusetts to the PSNH-owned Scobie Pond 345 kV Substation in Londonderry, New Hampshire. The New Hampshire portion of the MVRP (herein referred to as the "Project") also includes the relocation of an existing overhead 115-kV transmission line (known as the "Y-151 line") in Pelham, Windham, and Hudson.

There are no proposed waste water discharges or surface water withdrawals associated with this Project.

A 401 Water Quality Certification is required because the Project will have temporary and permanent wetland and stream impacts that will require authorization from the US Army Corps of Engineers under Section 404 of the Clean Water Act. The Project qualifies for a NH Programmatic General Permit (PGP), and it is assumed that the Project would be authorized by NHDES under the general Water Quality Certificate #2012-404P-002 for PGP activities.

III. Additional Submittal Information

PLEASE SUBMIT IN ELECTRONIC FORMAT AS MUCH INFORMATION AS POSSIBLE

Please provide an individual response to each bullet, below. If applicable information is contained in the application materials, please provide a reference to the specific section in the application materials that will represent the response to the individual bullets, below.

- Type of activity (e.g., construction, operation, other action such as water withdrawal) and the start and end dates of the activity.
- The characteristics of the activity: Whether the activity is associated with a discharge and/or water withdrawal and whether the discharge and/or withdrawal is proposed or occurring.
- The characteristics of the discharge and/or withdrawal
  - Flow rate (cfs)
  - Potential chemical, physical, biological constituents
  - Frequency (e.g., daily, hourly,)
  - Duration
  - Temperature (Celsius)
  - Latitude and longitude (dd:mm:ss)
- The existing and designated use(s) that are potentially affected by the proposed activities. (Designated Uses are listed in the DES Consolidated Assessment and Listing Methodology).
- The provision(s) of surface water quality standards (Env-Wq 1700) that are applicable to the designated uses affected by the proposed activities.
- A pollutant loading analysis to show the difference between pre-development and post-development pollutant loads for a typical year. The objective of the loading analysis is to show post-development pollutant loads do not exceed pre-development pollutant loads. Loading analysis guidance and a simple spreadsheet model will be provided by DES. The loading analysis will be used to determine appropriate stormwater management measures, which must be effectively designed, installed, and maintained to ensure compliance with surface water quality standards.
- A description of any other aspect of the activity that would affect the chemical composition, temperature, flow, or physical aquatic habitat of the surface water.
- An original or color copy/reproduction of a United States Geological Survey Quadrangle Map that clearly shows the location of the activity and all potential discharge points.
- A copy of the final complete federal permit application or federal license application, including the federal permit, license, or project number.
- A copy of the DES wetlands permit (RSA 482-A:3), if necessary.

- A copy of the DES alteration of terrain permit (RSA 485-A:17), if necessary.
- The name(s) and address(es) of adjoining riparian or littoral abutters.
- A plan showing the proposed activities to scale including:
  - The location(s) and boundaries of the activities;
  - The location(s), dimension(s), and type(s) of any existing and/or proposed structures; and
  - The location(s), name(s), identification number(s), and extent of all potentially affected surface water bodies, including wetlands.

Signature - MUST BE SIGNED AND DATED BY APPLICANT

To the best of my knowledge, the data and information described above, which I have submitted to the New Hampshire Department of Environmental Services, is true and correct. I understand that an approval of the requested 401 Certification based upon incorrect data may be subject to revocation of the 401 Certification. I have complied with all local regulations or ordinances relative to the proposed activity and have obtained or will obtain, prior to the commencement of any work, all other approvals that may be required.

Joanna V. Bames for PSNH

Signed: Joshua Wolder for NEP

6/23/15

Date: 6/23/15

Additional Submittal Information

Type of activity (e.g., construction, operation, other action such as water withdrawal) and the start and end dates of the activity.

The Merrimack Valley Reliability Project (MVRP) is being proposed by New England Power Company d/b/a National Grid (NEP) and Public Service Company of New Hampshire d/b/a Eversource (PSNH). MVRP involves the construction of a new 345 kV electric transmission line within the existing transmission right-of-way (ROW) between the NEP-owned Tewksbury 22A Substation in Tewksbury, Massachusetts and the PSNH-owned Scobie Pond 345 kV Substation in Londonderry, New Hampshire. The New Hampshire portion of the MVRP, herein referred to as the "Project", involves the installation of approximately 17.9 miles of a new 345-kV transmission line (known as the "3124 Line") within the towns of Pelham, Windham, Hudson, and Londonderry. The proposed 3124 Line will follow existing transmission line ROWs from the Massachusetts border to the PSNH-owned Scobie Pond 345 kV Substation in Londonderry, New Hampshire. In addition, 7.6 miles of an existing 115 kV transmission line (known as the "Y-151 line") will be relocated in the Towns of Pelham, Windham, and Hudson. The Project is being permitted through the New Hampshire Site Evaluation Committee (SEC) process in accordance with RSA 162-H. It is anticipated that the Project will be constructed over a period of approximately 16 months, from the fall of 2016 through December 2017.

For purposes of discussion, MVRP has been divided into four segments. The four segments are delineated by state, ownership, and line alignment. Segment 1 of MVRP is located entirely in Massachusetts and is not discussed herein. Segments 2, 3 and 4 are discussed in greater detail below.

Segment 2 includes that portion of the Project in New Hampshire that is to be owned and operated by NEP that begins at the New Hampshire border with Massachusetts and continues north for 8.1 miles within the NEP ROW in the Towns of Pelham, Windham, and Hudson. In most locations, the NEP ROW is cleared to nearly its full extent. To incorporate the new 3124 Line through most of Segment 2, the existing NEP-owned Y-151 line will need to be relocated within the western edge of the existing NEP ROW and the new 3124 Line will be installed in the original Y-151 alignment.

Segment 3 includes that portion of the Project where ownership of the new 3124 Line transitions from NEP to PSNH, beginning north of Griffin Road in Hudson and running northwesterly within the existing PSNH ROW for approximately 3.9 miles. For this distance, the NEP ROW runs parallel to the PSNH ROW. The PSNH ROW in Segment 3 contains one existing 345 kV overhead transmission line. Approximately 130 feet of the 220-foot wide ROW has been cleared and is maintained for the existing 345 kV transmission line. To incorporate the new 3124 Line through Segment 3, approximately 90 feet of the eastern forested edge of the ROW will need to be cleared.

Segment 4 utilizes that portion of the PSNH ROW that diverges from the NEP ROW and extends 5.9 miles northeasterly towards PSNH's Scobie Pond 345 kV Substation located on Brewster Road in Londonderry, New Hampshire. The PSNH ROW is cleared except for an approximately 50-foot strip of forested land running down the center of the ROW. To incorporate the new 3124 Line through Segment 4, the forested land within the middle of the ROW will need to be cleared.

The characteristics of the activity: Whether the activity is associated with a discharge and/or water withdrawal and whether the discharge and/or withdrawal is proposed or occurring.

The Project does not involve any water withdrawals or process water discharge that could impact water quality. The Project involves impacts to wetlands and surface waters as described in the New Hampshire Department of Environmental Services' (NHDES) Wetlands Permit Application for the Project.

The characteristics of the discharge and/or withdrawal

- **Flow rate (cfs)**
- **Potential chemical, physical, biological constituents**
- **Frequency (e.g., daily, hourly)**
- **Duration**
- **Temperature (Celsius)**
- **Latitude and longitude (dd:mm:ss)**

Not applicable.

The existing and designated use(s) that are potentially affected by the proposed activities. (Designated Uses are listed in the DES Consolidated Assessment and Listing Methodology).

The Project ROW crosses 181 wetlands, 13 perennial streams and 20 intermittent streams. General observations and descriptions of each wetland and stream are summarized in the wetland and stream crossing tables included in the NHDES Wetlands Permit Application. As discussed further below, streams along the Project ROW are not expected to be directly impacted by the placement of fill or the use of culverts to enclose streams, except where specifically noted.

The amount of tree clearing within 100-feet and 50-feet of a perennial and intermittent stream channel, respectively, was estimated using the available GIS data and aerial photographs. Of the total 4.5 acres of tree clearing estimated to occur within the designated buffers of 22 streams in New Hampshire, approximately 2.2 acres is associated with perennial streams and the remaining 2.3 acres of tree clearing is associated with intermittent streams. The following provides a general description and assessment of the principal rivers and streams crossed by the Project ROW in each Segment.

Segment 2

The first perennial stream in New Hampshire is **Golden Brook (NHRIV700061204-04)** which intersects the Project ROW between Bridge Street (Route 38) and Windham Road (Route 111A) in Pelham. The Town of Pelham designated the wetland surrounding the stream as a Prime Wetland. Golden Brook is a 3rd order perennial stream and drains from north to south across the Project ROW. This stream is not on the NHDES' 303(d) list of impaired water bodies (refer to the attached *New Hampshire Watershed Report Card*).

The largest stream crossed by the Project ROW in this Segment consists of **Lower Beaver Brook (NHRIV700061203-21)**, which is a fourth order stream that originates in the headwaters of Derry and Chester, NH and flows into the Merrimack River in Massachusetts. Many of the perennial and intermittent streams in this Segment are unnamed tributaries to Beaver Brook. Beaver Brook in the Windham and Pelham area is not listed as impaired on NHDES' 303(d) list. However, Beaver Brook is listed as impaired for aquatic life uses farther north in Derry and Londonderry due to elevated chloride levels (refer to the attached *New Hampshire Watershed Report Card*).

Segment 2 has the least amount of proposed tree clearing within the designated stream buffer areas. For perennial streams within this Segment, the largest amount of potential tree clearing consists of approximately 2,759 square feet associated with Beaver Brook near Winter Street and Glance Road in Windham. Beaver Brook is close to the Project ROW, but does not cross it. Farther north, Beaver Brook does cross the existing ROW near the Windham and Hudson town boundary. The amount of tree clearing estimated to occur within 100 feet of the stream channel is 1,658 square feet. This estimated amount of tree clearing is considered to be relatively minor in comparison to the overall width of the ROW and the size of the watershed area.

Segment 3

One of perennial streams within this Segment consists of **Chase Brook (NHRIV700061002-07)**, a small tributary to the Merrimack River that is crossed by the Project ROW near the Londonderry and Hudson town boundary. Chase Brook flows into the Merrimack River approximately four miles west of the ROW. This stream is not on the NHDES' 303(d) list of impaired water bodies (refer to the attached *New Hampshire Watershed* Report Card).

Other perennial streams crossed by the existing Project ROW consist of **Nesenkeag Brook (NHRIV700061002-04)** and two of its tributaries, which are located farther north in Londonderry. Nesenkeag Brook flows into the Merrimack River approximately two miles to the west of the ROW. Nesenkeag Brook is listed as impaired for aquatic life uses due to previously observed low dissolved oxygen levels and low biotic index values derived from previous benthic macroinvertebrate assessments. The source(s) for the low dissolved oxygen levels and low biotic values are listed as unknown according to the NHDES' 303(d) list. The target date for completing a Total Maximum Daily Load (TMDL) study is listed as 2016. Refer to the attached *New Hampshire Watershed Report Card*.

Relative to the other Segments, Segment 3 has the largest amount of proposed tree clearing within the identified stream buffer areas with a total of approximately 2.96 acres. Approximately 16,890 square feet or 0.39 acres of tree clearing is proposed within the stream buffer associated with Chase Brook, while 10,845 square feet or 0.25 acres of tree clearing is proposed within the stream buffer associated with Nesenkeag Brook.

Segment 4

One perennial stream located at the northern end of the Segment within a few hundred yards south of the Scobie Pond 345 kV Substation in Londonderry consists of a branch of **Beaver Brook (NHRIV700061203-11)** (2nd order designation in this location). The brook originates on the western side of the Interstate 93 roadway, flows beneath the roadway and joins a larger tributary stream that flows into Hoods Pond and eventually transitions to Beaver Brook (4th order stream designation) farther

downstream in Derry. This stream is listed on the NHDES' 303(d) list of impaired waters, which is considered impaired for aquatic life uses due to elevated chloride levels. Refer to the attached *New Hampshire Watershed Report Card*.

Stream buffer clearing in Segment 4 is estimated to be approximately 1.19 acres, with nearly all but a small portion associated with the intermittent streams. The only tree clearing associated with a perennial stream buffer consists of approximately 4,410 sf of clearing around the Beaver Brook crossing near the Scobie Pond 345 kV Substation. This is a relatively minor amount of tree clearing as compared to the rest of the ROW.

The provision(s) of surface water quality standards (Env-Wq 1700) that are applicable to the designated uses affected by the proposed activities.

The Project does not involve any direct discharges or water withdrawals and is not anticipated to materially affect surface water quality and the designated uses.

A pollutant loading analysis to show the difference between pre-development and post-development pollutant loads for a typical year. The objective of the loading analysis is to show post-development pollutant loads do not exceed pre-development pollutant loads. Loading analysis guidance and a simple spreadsheet model will be provided by DES. The loading analysis will be used to determine appropriate stormwater management measures, which must be effectively designed, installed, and maintained to ensure compliance with surface water quality standards.

A pollutant loading analysis was not conducted because the Project proposes a negligible increase in impervious area that will not change pollutant loading between pre-development and post-development conditions.

A description of any other aspect of the activity that would affect the chemical composition, temperature, flow, or physical aquatic habitat of the surface water.

The principal water quality concern associated with this activity relates to the potential for increased sediment erosion and movement during the construction period. The Project does not involve any water withdrawals or process water discharge that could impact water quality. The Project is not proposing to construct any petroleum liquid storage facilities. The Project will not significantly increase impervious surfaces within the Project area.

Prior to construction commencement, proper sedimentation and erosion controls will be implemented in accordance with NEP and PSNH Environmental BMP Guidance Manuals for Construction Activities. An Environmental Field Issue and Stormwater Pollution Prevention Plan, as appropriate, will be prepared prior to construction to provide specific details on the types of erosion control measures to be used and the inspection and maintenance provisions. Limits of clearing will also be clearly marked in the field prior to the start of construction to prevent any inadvertent excursion of clearing beyond what is necessary. Grubbing of stumps will be limited to the new structure locations to allow the installation of the poles and safe access.

Various measures will be used during the construction period to minimize the erosion potential and sediment migration from the Project area. Vehicle refueling will be properly sited and established with spill containment measures consistent with NEP and PSNH Construction BMP Guidance Manuals. During the construction period, swamp mats may be used in saturated soil areas to minimize soil disturbance and rutting from vehicle access and staging. Construction activity will be monitored and the condition and effectiveness of the erosion control measures will be inspected. Inspection and maintenance logs will be maintained to provide documentation of inspections and provide feedback to the construction contractor and owner as required in accordance with the National Pollutant Discharge Elimination System (NPDES) Construction General Permit (CGP). Specified erosion control measures will include permanent stabilization measures to restore disturbed soils to a stabilized condition.

Although the Project will require tree clearing near many of the area streams crossed by or adjacent to the Project ROW, the proposed clearing will be limited to only a minor portion of the overall width of the existing, cleared ROW. Given that much of the existing ROW width is already cleared, the added clearing is not expected to result in any discernable effects on water quality or water temperatures in the intermittent or perennial streams.

Construction of the Project will not require the application of any herbicides or chemical treatments. Following construction, future vegetation management controls will be consistent with those currently used in the rest of the existing ROW. Maintenance primarily consists of periodic cutting and trimming and application of herbicides in accordance with the New Hampshire Division of Pesticide Control Special Permit.

An original or color copy/reproduction of a United States Geological Survey Quadrangle Map that clearly shows the location of this activity and all potential discharge points.

See the attached *NH USGS Project Overview Maps* for the general Project location.

A copy of the final complete federal permit application or federal license application, including the federal permit, license, or project number.

No permit application has been filed with the US Army Corps of Engineers (USACE) as the Project will be authorized under the NH Programmatic General Permit. As is the standard procedure for General Permits, the NHDES Wetlands Bureau Permit application will serve as the technical documentation reviewed by the USACE. An USACE permit will be issued, which includes Project-specific conditions, as applicable, following issuance of the NHDES Wetlands Bureau Permit. The USACE project number is NAE-2015-454.

A copy of the DES wetlands permit (RSA 482-A:3), if necessary.

Refer to Appendix E of the SEC Application.

A copy of the DES alteration of terrain permit (RSA 485-A:17), if necessary.

The Project qualifies for a General Permit by Rule in accordance with Alteration of Terrain Rule Env-Wq 1503.03(e), for projects that disturb less than 100,000 square feet of contiguous area and less than 50,000 square feet of contiguous area thresholds that require an Alteration of Terrain Permit. Land disturbance is

limited to discrete areas along the Project ROW where land will be altered to allow for construction vehicle access. As a result, the Project does not exceed the contiguous area thresholds that require an Alteration of Terrain Permit. However, the Project is subject to conditions of the General Permit by Rule. The conditions applied under the rule ensure that terrain alteration below the threshold limit will not have an adverse effect on water quality in surface waters of the state. In order to comply with these conditions, an additional guidance document was developed to address certain work areas with a higher potential to impact water quality due to steep terrain and proximity to water resources. The guidance document recommends additional stormwater management BMPs for construction access and work areas. See Construction Access Plan in Appendix P in the SEC Application.

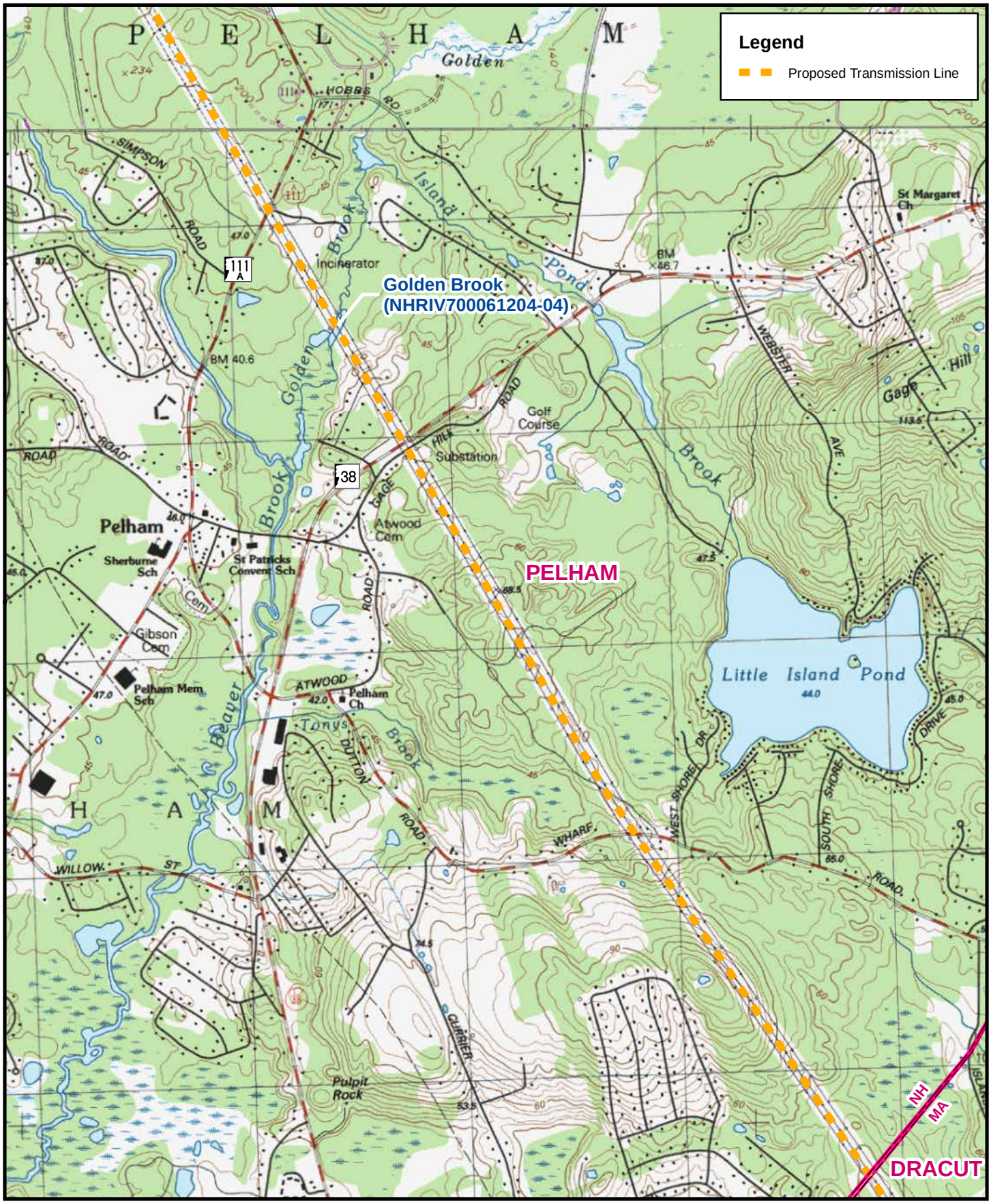
The name(s) and address(es) of adjoining riparian or littoral abutters.

Abutters were identified and notified under the rules of the NHDES Wetlands Permit Application. Refer to the NHDES Wetlands Permit Application for further information.

A plan showing the proposed activities to scale including:

- **The location(s) and boundaries of the activities;**
- **The location(s), dimensions(s), and type(s) of any existing and/or proposed structures; and**
- **The location(s), name(s), identification number(s), and extent of all potentially affected surface water bodies, including wetlands.**

Refer to the *NH USGS Project Overview Maps* with the principal streams labeled.



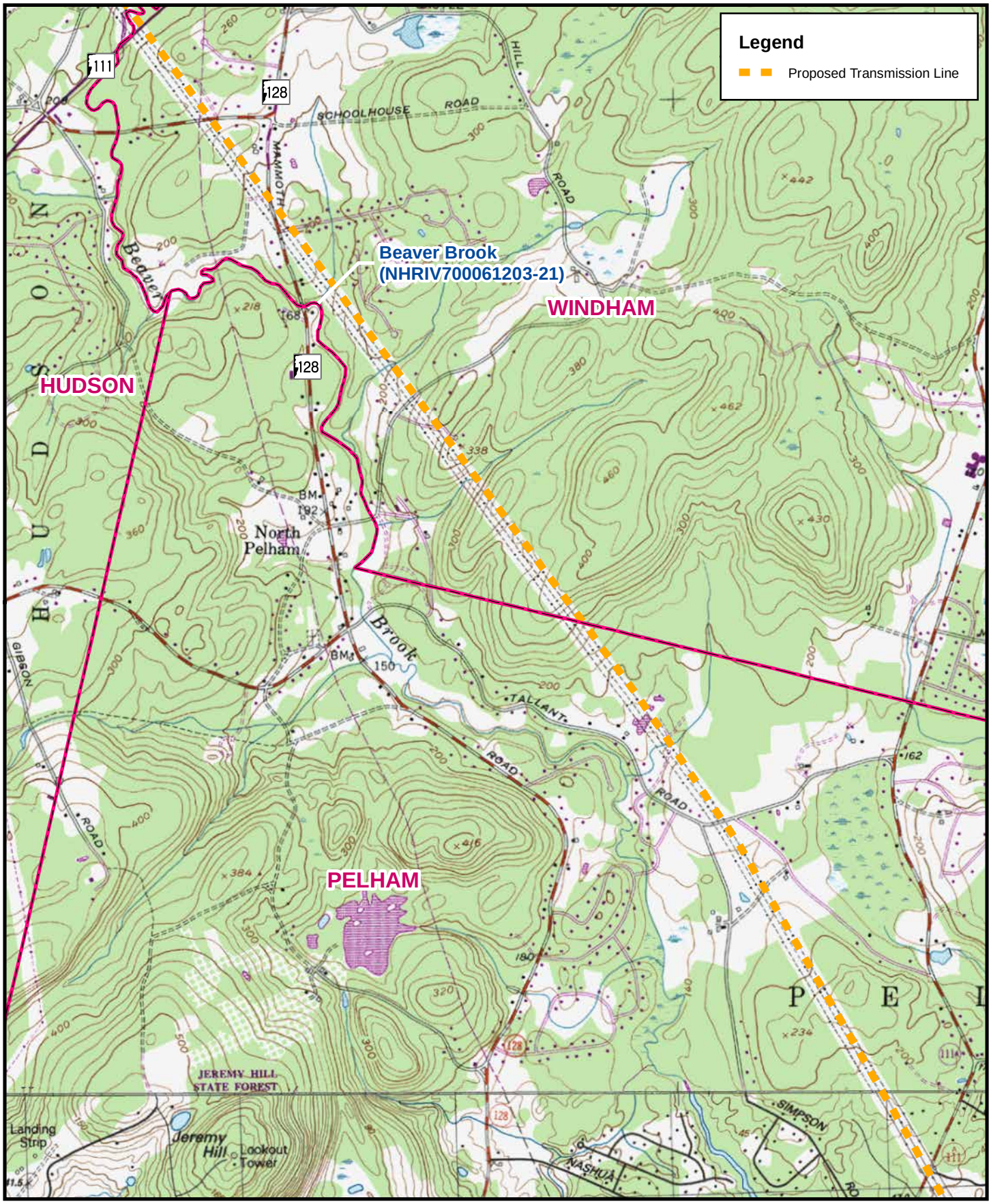
MERRIMACK VALLEY RELIABILITY PROJECT

Tewksbury 22A Substation MA to Scobie Pond 345kV Substation NH
NH USGS Project Overview Maps

Page 1 of 5

Scale:
1:24,000
1 inch = 2,000 feet

EVERSOURCE ENERGY
nationalgrid



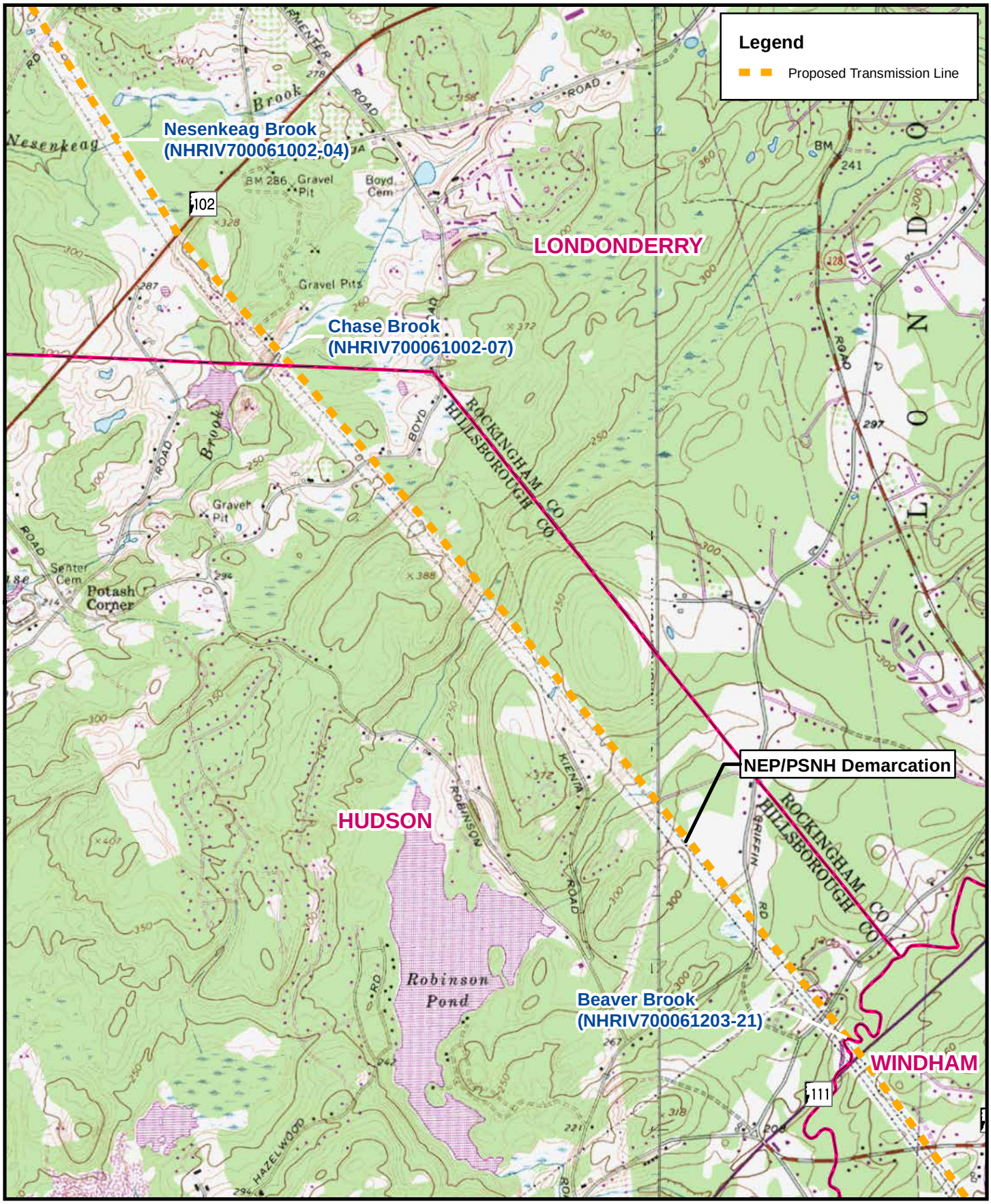
MERRIMACK VALLEY RELIABILITY PROJECT

Tewksbury 22A Substation MA to Scobie Pond 345kV Substation NH
NH USGS Project Overview Maps

Page 2 of 5

Scale:
1:24,000
1 inch = 2,000 feet

EVERSOURCE ENERGY
nationalgrid



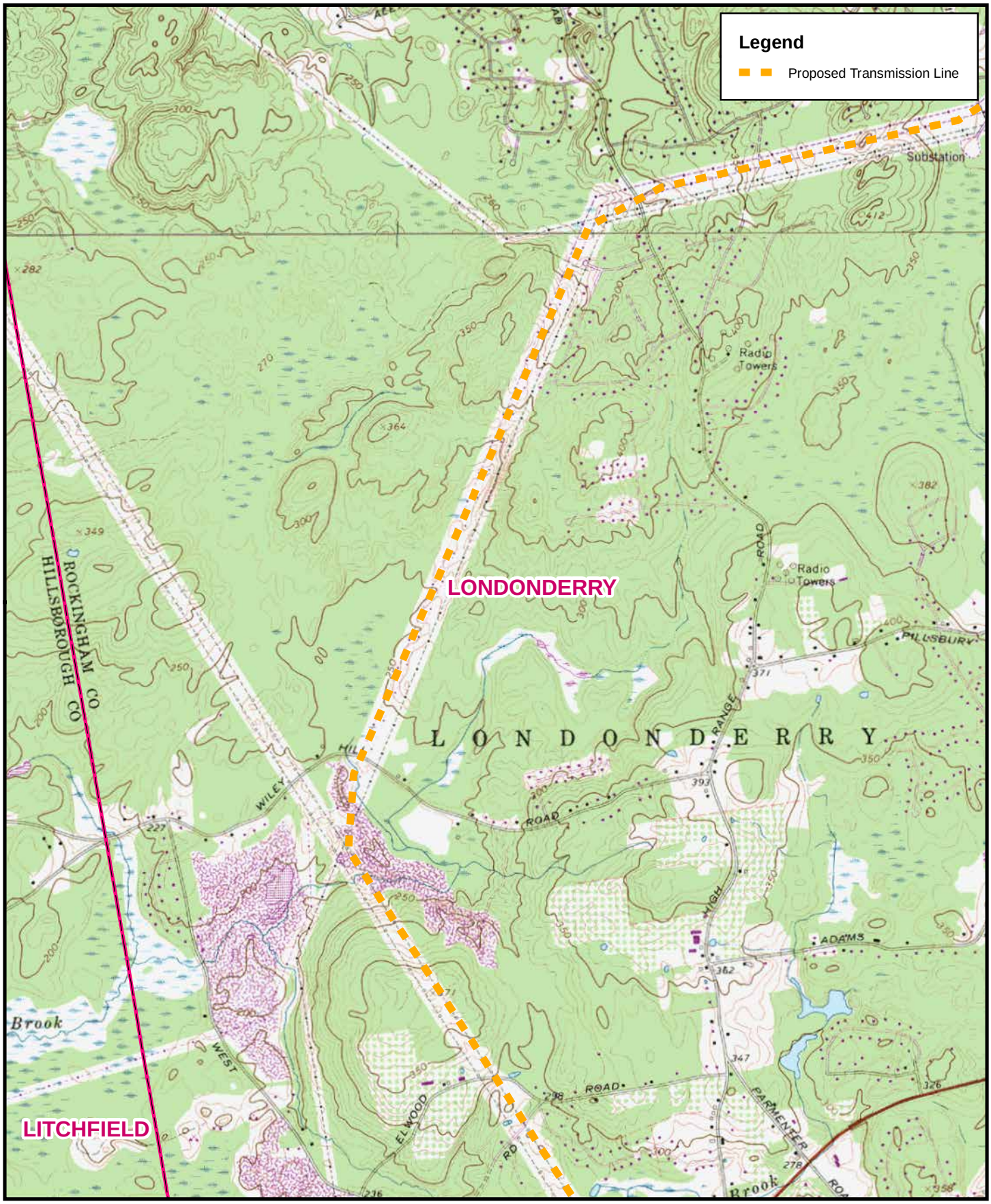
MERRIMACK VALLEY RELIABILITY PROJECT

Tewksbury 22A Substation MA to Scobie Pond 345kV Substation NH
NH USGS Project Overview Maps

Page 3 of 5

Scale:
1:24,000
1 inch = 2,000 feet

EVERSOURCE ENERGY
nationalgrid



MERRIMACK VALLEY RELIABILITY PROJECT

Tewksbury 22A Substation MA to Scobie Pond 345kV Substation NH
NH USGS Project Overview Maps

Page 4 of 5

Scale:
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1 inch = 2,000 feet

EVERSOURCE ENERGY
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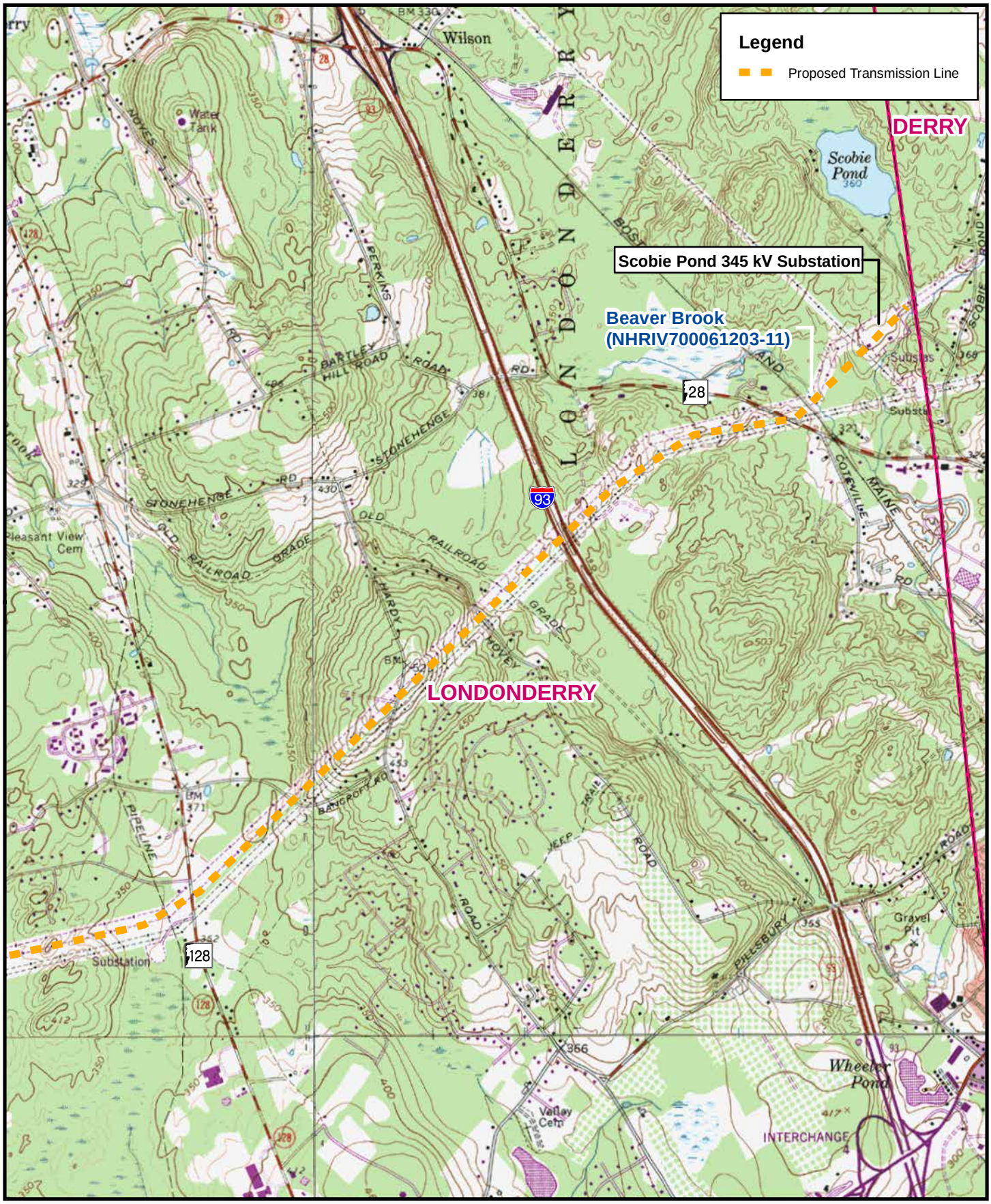


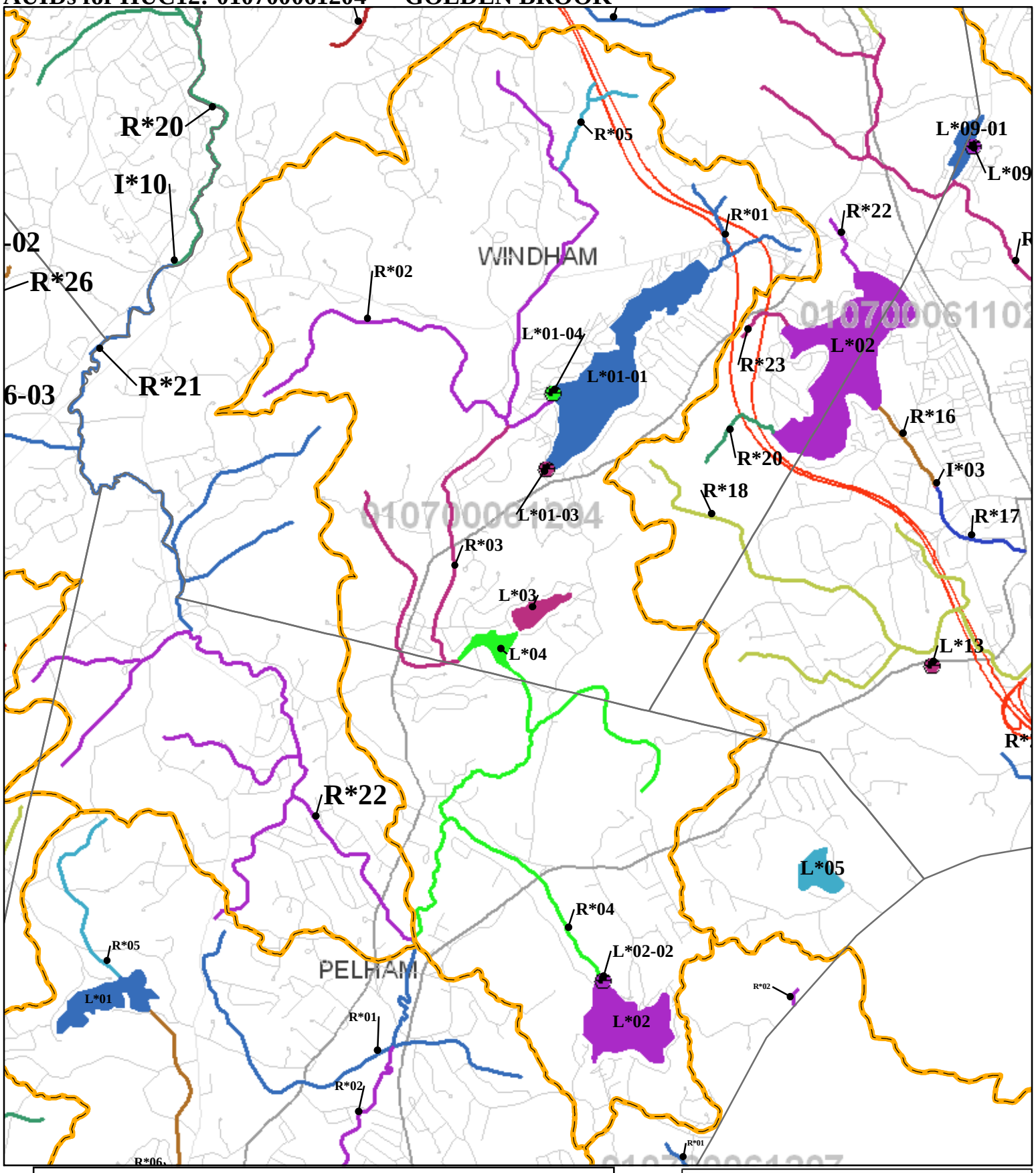
MERRIMACK VALLEY RELIABILITY PROJECT

Tewksbury 22A Substation MA to Scobie Pond 345kV Substation NH
NH USGS Project Overview Maps

Scale:
1:24,000
1 inch = 2,000 feet

EVERSOURCE ENERGY
nationalgrid

AUIDs for HUC12: 010700061204 - GOLDEN BROOK



Town Boundaries
HUC12 Boundaries

Assessment Unit Coloring
AUs Ending with:
0 =
1 =
2 =
3 =
4 =
5 =
6 =
7 =
8 =
9 =

Roads
Interstate
State
Local
Private and Class 6

Scale:1:58,610

0 0.25 0.5 1 1.5 2 Miles

Abbrv. Label	HUC 12
L*03	010700060201

AUID = NH LAK700060201-03

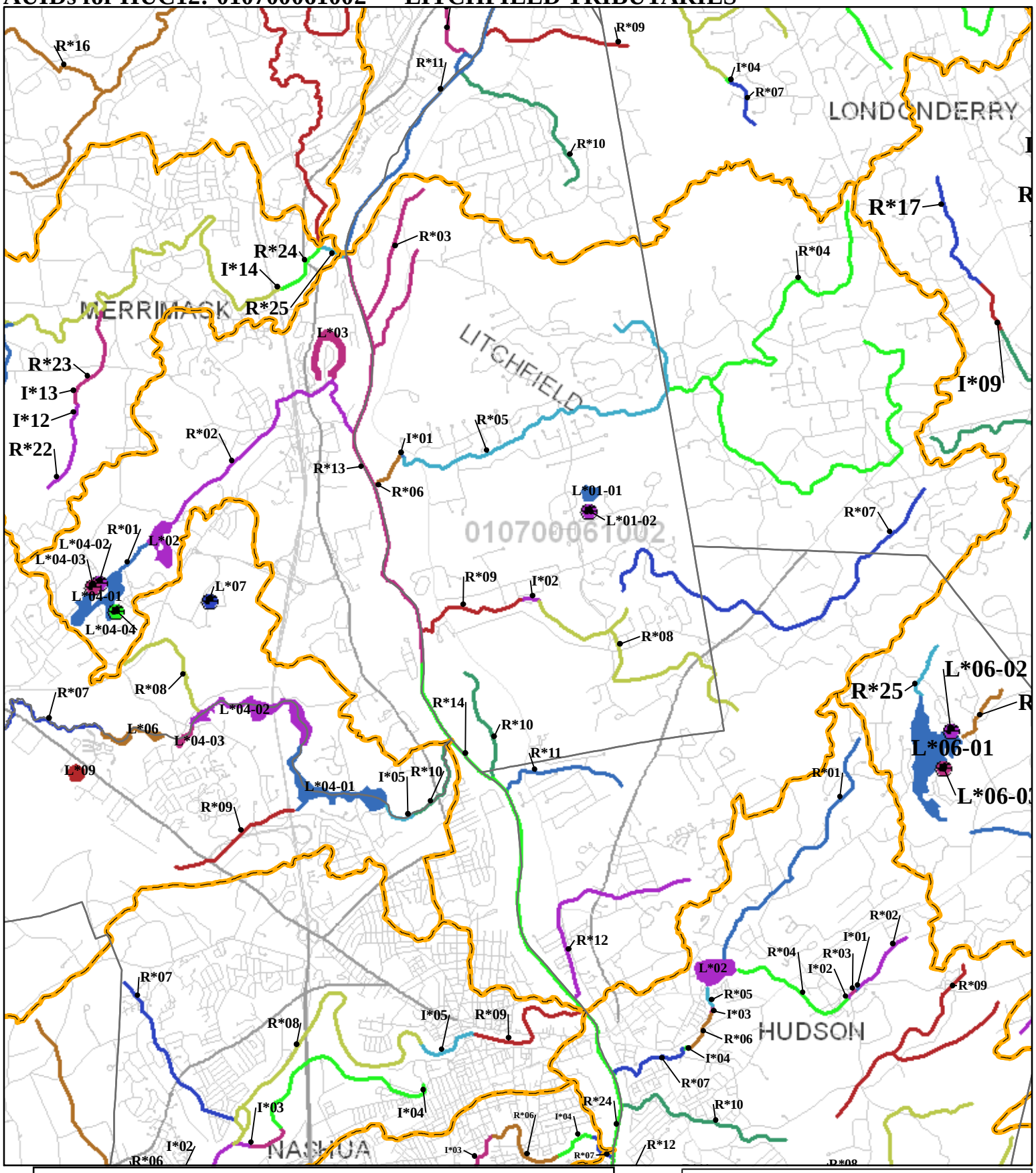
Assessment Unit ID	NHRIV700061204-04	Size	6.0500	MILES	**2008, 305(b)/303(d) - All Reviewed Parameters by Assessment Unit**
Assessment Unit Name	GOLDEN BROOK - ISLAND POND BROOK	Beach	N		
Primary Town	PELHAM	Assessment Unit Category*~	3-PAS		

Designated Use Description	*Desig. Use Category	Desig. Use Threat	Parameter Name	Parameter Threatened (Y/N)	Parameter Category*	TMDL Schedule	Expected To Attain Date	Source Name (Impairments only)
Aquatic Life	3-PAS		Benthic-Macroinvertebrate Bioassessments (Streams)	N	3-ND			
			CHLORIDE	N	2-G			
			Dissolved oxygen saturation	N	3-ND			
			Fishes Bioassessments (Streams)	N	3-ND			
			Oxygen, Dissolved	N	3-ND			
			PH	N	3-PAS			
Drinking Water After Adequate Treatment	2-G							
Fish Consumption	4A-M		Mercury	N	4A-M	2017		Atmospheric Deposition - Toxics
Primary Contact Recreation	3-ND		Escherichia coli	N	3-ND			
Secondary Contact Recreation	3-ND		Escherichia coli	N	3-ND			
Wildlife	3-ND							

Severe	Poor	Likely Bad	No Data	Likely Good	Marginal	Good
Not Supporting, Severe	Not Supporting, Marginal	Insufficient Information – Potentially Not Supporting	No Data	Insufficient Information – Potentially Full Supporting	Full Support, Marginal	Full Support, Good

*DES Categories; 2-G = Supports Parameter well above criteria, 2-M = Supports Parameter marginally above criteria, 2-OBS = Exceeds WQ criteria but natural therefore not a WQ exceedence, 3-ND = Insufficient Information/No data, 3-PAS= Insufficient Information/Potentially Attaining Standard, 3-PNS= Insufficient Information/Potentially Not Attaining Standard, (4A=Impaired/TMDL Completed, 4B=Impaired/Other Measure with rectify Impairment, 4C=Impaired/Non-Pollutant, 5=Impaired/TMDL needed) M=Marginally Impairment, P=Severe Impairment, T=Threatened (http://des.nh.gov/organization/divisions/water/wmb/swqa/index.htm)

AUIDs for HUC12: 010700061002 - LITCHFIELD TRIBUTARIES



Town Boundaries

HUC12 Boundaries

Assessment Unit Coloring

AUs Ending with:

0 =
1 =
2 =
3 =
4 =
5 =
6 =
7 =
8 =
9 =

Roads

Interstate

State

Local

Private and Class 6

Scale:1:70,707

0 0.35 0.7 1.4 2.1 2.8 Miles

Abbrv. Label	HUC 12
L*03	010700060201

AUID = NH LAK700060201-03

Assessment Unit ID	NHRIV700061002-04	Size	7.2900	MILES	**2008, 305(b)/303(d) - All Reviewed Parameters by Assessment Unit**
Assessment Unit Name	NESENKEAG BROOK	Beach	N		
Primary Town	LONDONDERRY	Assessment Unit Category*~	5-P		

Designated Use Description	*Desig. Use Category	Desig. Use Threat	Parameter Name	Parameter Threatened (Y/N)	Parameter Category*	TMDL Schedule	Expected To Attain Date	Source Name (Impairments only)
Aquatic Life	5-P		Benthic-Macroinvertebrate Bioassessments (Streams)	N	3-ND			
			DISSOLVED OXYGEN SATURATION	N	3-PAS			
			Fishes Bioassessments (Streams)	N	3-ND			
			Oxygen, Dissolved	N	5-P	2016		Source Unknown
			pH	N	5-M	2019		Source Unknown
Drinking Water After Adequate Treatment	2-G							
Fish Consumption	4A-M		Mercury	N	4A-M	2017		Atmospheric Deposition - Toxics
Primary Contact Recreation	3-ND		Escherichia coli	N	3-ND			
Secondary Contact Recreation	3-ND		Escherichia coli	N	3-ND			
Wildlife	3-ND							

Severe	Poor	Likely Bad	No Data	Likely Good	Marginal	Good
Not Supporting, Severe	Not Supporting, Marginal	Insufficient Information – Potentially Not Supporting	No Data	Insufficient Information – Potentially Full Supporting	Full Support, Marginal	Full Support, Good

*DES Categories; 2-G = Supports Parameter well above criteria, 2-M = Supports Parameter marginally above criteria, 2-OBS = Exceeds WQ criteria but natural therefore not a WQ exceedence, 3-ND = Insufficient Information/No data, 3-PAS= Insufficient Information/Potentially Attaining Standard, 3-PNS= Insufficient Information/Potentially Not Attaining Standard, (4A=Impaired/TMDL Completed, 4B=Impaired/Other Measure with rectify Impairment, 4C=Impaired/Non-Pollutant, 5=Impaired/TMDL needed) M=Marginally Impairment, P=Severe Impairment, T=Threatened (http://des.nh.gov/organization/divisions/water/wmb/swqa/index.htm)

Assessment Unit ID NHRIV700061002-07 | Size 3.9500 MILES

Assessment Unit Name CHASE BROOK | Beach N

Primary Town HUDSON | Assessment Unit Category*~ 3-ND

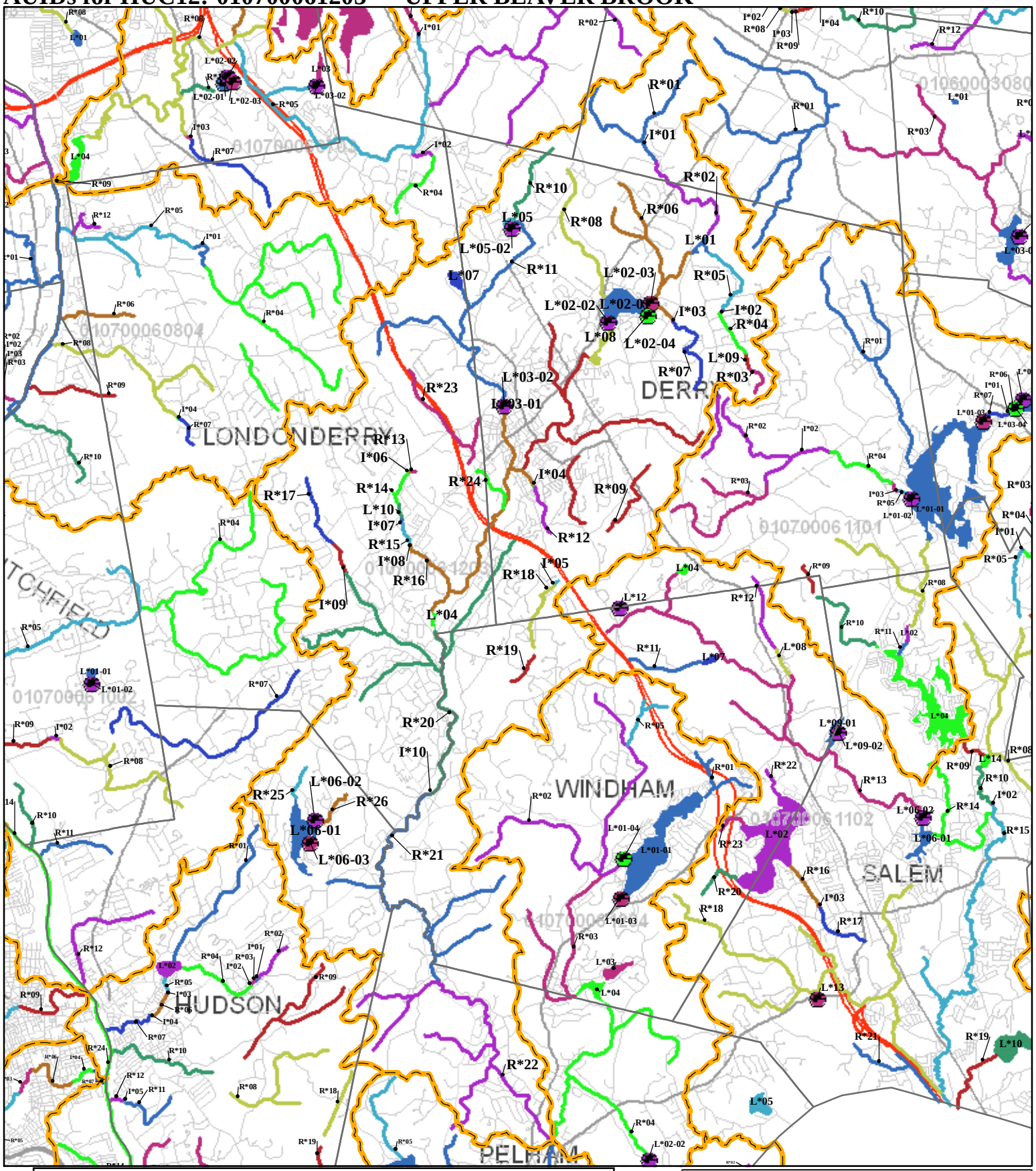
2008, 305(b)/303(d) - All Reviewed Parameters by Assessment Unit

Designated Use Description	*Desig. Use Category	Desig. Use Threat	Parameter Name	Parameter Threatened (Y/N)	Parameter Category*	TMDL Schedule	Expected To Attain Date	Source Name (Impairments only)
Aquatic Life	3-ND		Benthic-Macroinvertebrate Bioassessments (Streams)	N	3-ND			
			Dissolved oxygen saturation	N	3-ND			
			Fishes Bioassessments (Streams)	N	3-ND			
			Oxygen, Dissolved	N	3-ND			
			pH	N	3-ND			
Drinking Water After Adequate Treatment	2-G							
Fish Consumption	4A-M		Mercury	N	4A-M	2017		Atmospheric Deposition - Toxics
Primary Contact Recreation	3-ND		Escherichia coli	N	3-ND			
Secondary Contact Recreation	3-ND		Escherichia coli	N	3-ND			
Wildlife	3-ND							

Severe	Poor	Likely Bad	No Data	Likely Good	Marginal	Good
Not Supporting, Severe	Not Supporting, Marginal	Insufficient Information – Potentially Not Supporting	No Data	Insufficient Information – Potentially Full Supporting	Full Support, Marginal	Full Support, Good

*DES Categories; 2-G = Supports Parameter well above criteria, 2-M = Supports Parameter marginally above criteria, 2-OBS = Exceeds WQ criteria but natural therefore not a WQ exceedence, 3-ND = Insufficient Information/No data, 3-PAS= Insufficient Information/Potentially Attaining Standard, 3-PNS= Insufficient Information/Potentially Not Attaining Standard, (4A=Impaired/TMDL Completed, 4B=Impaired/Other Measure with rectify Impairment, 4C=Impaired/Non-Pollutant, 5=Impaired/TMDL needed) M=Marginally Impairment, P=Severe Impairment, T=Threatened (http://des.nh.gov/organization/divisions/water/wmb/swqa/index.htm)

AUIDs for HUC12: 010700061203 - UPPER BEAVER BROOK



Town Boundaries
HUC12 Boundaries

Assessment Unit Coloring AUs Ending with:

0 =
1 =
2 =
3 =
4 =
5 =
6 =
7 =
8 =
9 =

Roads

Interstate
State
Local
Private and Class 6

Scale:1:114,602

0 0.5 1 2 3 4 Miles

Abbrv. Label	HUC 12
L*03	010700060201

AUID = NH LAK700060201-03

Assessment Unit ID NHRIV700061203-11 | Size 5.7000 MILES

Assessment Unit Name BEAVER BROOK | Beach N

Primary Town LONDONDERRY | Assessment Unit Category*~ 5-P

2008, 305(b)/303(d) - All Reviewed Parameters by Assessment Unit

Designated Use Description	*Desig. Use Category	Desig. Use Threat	Parameter Name	Parameter Threatened (Y/N)	Parameter Category*	TMDL Schedule	Expected To Attain Date	Source Name (Impairments only)
Aquatic Life	5-P		Benthic-Macroinvertebrate Bioassessments (Streams)	N	3-ND			
			CHLORIDE	N	5-P	2021		Impervious Surface/Parking Lot Runoff
								Commerical Districts (Shopping/Office Complexes)
								Highway/Road/Bridge Runoff (Non-construction Related)
			Dissolved oxygen saturation	N	3-ND			
			Fishes Bioassessments (Streams)	N	3-ND			
			Oxygen, Dissolved	N	3-ND			
			pH	N	3-ND			
Drinking Water After Adequate Treatment	2-G							
Fish Consumption	4A-M		Mercury	N	4A-M	2017		Atmospheric Deposition - Toxics
Primary Contact Recreation	3-ND		Escherichia coli	N	3-ND			
Secondary Contact Recreation	3-ND		Escherichia coli	N	3-ND			
Wildlife	3-ND							

Severe	Poor	Likely Bad	No Data	Likely Good	Marginal	Good
Not Supporting, Severe	Not Supporting, Marginal	Insufficient Information – Potentially Not Supporting	No Data	Insufficient Information – Potentially Full Supporting	Full Support, Marginal	Full Support, Good

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Assessment Unit ID NHRIV700061203-21 | Size 7.3700 MILES

Assessment Unit Name BEAVER BROOK | Beach N

Primary Town WINDHAM | Assessment Unit Category*~ 5-M

2008, 305(b)/303(d) - All Reviewed Parameters by Assessment Unit

Designated Use Description	*Desig. Use Category	Desig. Use Threat	Parameter Name	Parameter Threatened (Y/N)	Parameter Category*	TMDL Schedule	Expected To Attain Date	Source Name (Impairments only)
Aquatic Life	5-M		Benthic-Macroinvertebrate Bioassessments (Streams)	N	3-ND			
			CHLORIDE	N	3-PAS			
			Dissolved oxygen saturation	N	3-ND			
			Fishes Bioassessments (Streams)	N	3-ND			
			Oxygen, Dissolved	N	3-ND			
			pH	N	5-M	2019		Source Unknown
Drinking Water After Adequate Treatment	2-G							
Fish Consumption	4A-M		Mercury	N	4A-M	2017		Atmospheric Deposition - Toxics
Primary Contact Recreation	2-M		ESCHERICHIA COLI	N	2-M			
Secondary Contact Recreation	2-G		ESCHERICHIA COLI	N	2-G			
Wildlife	3-ND							

Severe	Poor	Likely Bad	No Data	Likely Good	Marginal	Good
Not Supporting, Severe	Not Supporting, Marginal	Insufficient Information – Potentially Not Supporting	No Data	Insufficient Information – Potentially Full Supporting	Full Support, Marginal	Full Support, Good

*DES Categories; 2-G = Supports Parameter well above criteria, 2-M = Supports Parameter marginally above criteria, 2-OBS = Exceeds WQ criteria but natural therefore not a WQ exceedence, 3-ND = Insufficient Information/No data, 3-PAS= Insufficient Information/Potentially Attaining Standard, 3-PNS= Insufficient Information/Potentially Not Attaining Standard, (4A=Impaired/TMDL Completed, 4B=Impaired/Other Measure with rectify Impairment, 4C=Impaired/Non-Pollutant, 5=Impaired/TMDL needed) M=Marginally Impairment, P=Severe Impairment, T=Threatened (http://des.nh.gov/organization/divisions/water/wmb/swqa/index.htm)